



Technical Data Sheet (TDS)

Bitumen 80/100

Penetration Grade Asphalt Binder

1. Product Description

Bitumen 80/100 is a penetration-grade petroleum bitumen manufactured through controlled refining of crude oil. This grade is defined by a penetration value between 80 and 100 (0.1 mm) at 25°C, making it a **medium-soft paving bitumen** suitable for road construction in moderate and warm climates.

It offers excellent balance between flexibility and stability, ensuring strong adhesion to aggregates and long-term pavement performance.

2. Typical Applications

Bitumen 80/100 is widely used in:

- Hot Mix Asphalt (HMA) production
- Asphalt concrete for highways and urban roads
- Surface dressing and chip sealing
- Asphalt base and binder courses
- Road maintenance and patching works
- Manufacturing of asphalt emulsions and cutbacks

Recommended for regions where flexibility is required to prevent cracking but sufficient stiffness is needed to resist rutting.

3. Standards & Classification

Bitumen 80/100 complies with:

- ASTM D946 – Penetration-Graded Asphalt Cement
- AASHTO M20
- EN 12591 (equivalent classification depending on region)
- ISIRI / BS EN (as requested)

4. Technical Specifications

Property	Test Method	Unit	Specification
Penetration @25°C	ASTM D5	0.1 mm	80 – 100
Softening Point	ASTM D36	°C	42 – 52
Ductility @25°C	ASTM D113	cm	≥ 100
Loss on Heating (TFOT)	ASTM D6	wt %	≤ 0.5
Drop in Penetration after TFOT	ASTM D5	%	≤ 20
Flash Point (Cleveland Open Cup)	ASTM D92	°C	≥ 250
Specific Gravity @25°C	ASTM D70	-	1.01 – 1.06
Solubility in Trichloroethylene	ASTM D2042	%	≥ 99.0
Spot Test	AASHTO T102	-	Negative

5. Performance Characteristics

✓ Balanced Flexibility

Reduces risk of thermal cracking in moderate climates.

✓ Good Adhesion

Provides excellent bonding with aggregates when properly mixed.

✓ Workability

Maintains stable viscosity during mixing and compaction.

✓ Durability

Resists aging when produced under controlled refining conditions.



6. Handling & Heating Guidelines

- Recommended storage temperature: **140–160°C**
- Maximum heating temperature: **180°C**
- Avoid overheating to prevent oxidation and hardening.
- Continuous gentle circulation recommended in storage tanks.

7. Packaging Options

Bitumen 80/100 is available in:

- 180 kg new steel drums
- 150 kg drums
- Jumbo bags (300 kg – 1 MT)
- Bulk shipment (bitutainer / tanker)
- Polybags (melttable bags inside container)

8. Storage Conditions

- Store in clean, dry tanks free from water contamination.
- Avoid direct flame contact.
- Ensure tanks are insulated and temperature-controlled.
- Prevent moisture entry during loading/unloading.

9. Safety Information

Bitumen 80/100 is non-hazardous at ambient temperature. However, at elevated temperatures:

- Use heat-resistant gloves and protective clothing.
- Avoid inhalation of fumes.
- Keep away from ignition sources.
- Refer to MSDS for detailed safety instructions.



10. Quality Control

Each batch is tested before shipment.

Certificate of Analysis (COA) is issued per lot, confirming compliance with specification limits.

Optional third-party inspection (SGS, BV, Intertek) available upon request.

11. Climate Suitability

Bitumen 80/100 is typically recommended for:

- Moderate climate zones
- Regions requiring flexible pavement structure
- Areas where traffic loads are medium to heavy

For hotter climates, harder grades like 60/70 may be considered. For colder climates, softer grades may perform better.

12. Chemical Composition (General)

Bitumen consists of:

- Asphaltenes
- Resins
- Aromatics
- Saturates

The balance of these fractions determines penetration and performance behavior.

13. Shelf Life

Unlimited under proper storage conditions with controlled temperature and no contamination.